Abstract

Title:
Connecting Knots and Their Influence on the Breaking Strength of Dynamic Rope

Aims

Aim of the work is to find out the breaking strength of dynamic rope and the influence of connecting knots on the decrease of its breaking strength.

Method:

We use the method of testing maximum weighting of dynamic ropes. Measurement was done on a horizontal tearing machine in the Strojirensky zkusebni ustav in Jablonec nad Nisou.

Results:

Bigger breaking strength achieved the rope Beal Buster. It was 23.61 kN. The rope Beal Booster achieved the breaking strength 18.46 kN. The difference between these ropes is 5.5 kN. We recommend the eight knot as a connecting knot for the rope Unicore, whose breaking strength was 15.4 kN. This knot decreased the breaking strength of the rope at least. We found out the nine knot as the most sufficent knot for the ropes Beal Booster. Its breaking strength was 15.58 kN.

Key word:

dynamic rope, connecting knot, knot, breaking strength